

Specification GS329

myReflow.com Soldering System

Manufacturer: Vitronics Soltec (Suzhou) Co., Ltd.

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I.1 GENERAL INFORMATION MYREFLOW SERIES

I.1.1 AVAILABLE MACHINES

	Zones	Heating / Cooling Zones	Total cooled length	Total heated length	Overall system length, Air ❶	Overall system length, Nitrogen prepared ❶	Overall system width	Overall system height ❷	On and off load lengths	Net system weight, Air ❸	Net system weight, Nitrogen prepared ❸
DIM	#	#	mm/ inch	mm/ inch	mm/ inch	mm/ inch	mm/ inch	mm/ inch	mm/ inch	kg/ lb approx	kg/ lb approx
MR 620	8	6/2	710/ 27.95	2130/ 83.86	3988/ 157.00	3988/ 157.00	1600/ 62.99	1420/ 55.91	80/3.15	2300/ 5071	2300/ 5071
MR 710	8	7/1	355/ 13.98	2485/ 97.83	3988/ 157.00	3988/ 157.00	1600/ 62.99	1420/ 55.91	80/3.15	2300/ 5071	2300/ 5071
MR 730	10	7/3	1065/ 41.93	2485/ 97.83	3988/ 157.00	4698/ 184.96	1600/ 62.99	1420/ 55.91	80/3.15	2300/ 5071	2500/ 5522
MR 820	10	8/2	710/ 27.95	2840/ 111.81	3988/ 157.00	4698/ 184.96	1600/ 62.99	1420/ 55.91	80/3.15	2300/ 5071	2500/ 5522
MR 930	12	9/3	1065/ 41.93	3195/ 125.79	4698/ 184.96	5408/ 212.92	1600/ 62.99	1420/ 55.91	80/3.15	2200/ 4850	2700/ 5952
MR 1020	12	10/2	710/ 27.95	3550/ 139.76	4698/ 184.96	5408/ 212.92	1600/ 62.99	1420/ 55.91	80/3.15	2200/ 4850	2700/ 5952
MR 1040	14	10/4	1420/ 55.91	3550/ 139.76	5408/ 212.92	6118/ 240.87	1600/ 62.99	1420/ 55.91	80/3.15	2700/ 5952	2900/ 6393
MR 1130	14	11/3	1065/ 41.93	3905/ 153.74	5408/ 212.92	6118/ 240.87	1600/ 62.99	1420/ 55.91	80/3.15	2700/ 5952	2900/ 6393

❶ = In cold condition. Length increases with approximately 3 to 4 mm/ 0.12 to 0.16 inch in hot condition.

❷ = System height at conveyor height of 900 mm / 35.4 inch.

❸ = Depending on configuration

I.1.2 AREA OF APPLICATION

The myReflow.com Soldering System is an in-line automatic machine, designed to solder printed circuit boards (PCB) in a reflow process.

PCB's are transported by a conveyor system over the preheat, solder and cooling stations.

The myReflow.com is designed to meet the European CE directives.

I.1.3 MATERIALS USED

All customer-used chemicals must be compatible with the Vitronics Soltec used materials, such as: Fluorocarbon Elastomer, PVC (Polyvinyl chloride), PVDF (Polyvinylidene fluoride), steel, stainless steel and aluminium.



To avoid severe corrosion in the machine only the use of solderpastes containing non corrosive or so called “no-clean” fluxes is allowed. These are fluxes which need not to be removed from the PCB after soldering.

I.1.4 GENERAL SYSTEM

DESCRIPTION	STANDARD/ OPTIONAL
Hinged clamshell design with power lifts, provides full access to oven interior	Standard
Total access to width adjust units, motor drive and chain return loops	Standard
Full CE mark (applicable for EC/EFA countries only and when installed in-line)	Optional
Integrated on-screen manual	Standard
Colour grey white (RAL 9002) and grey (RAL 7036)	Standard
Individual Zone Exhaust TM (patented)	Standard
Alternative RAL colours	Optional
Right-to-left machine configuration	Optional
UL compliance for electrical enclosure	Optional

I.2 CONVEYOR SYSTEM

I.2.1 EDGE RAIL



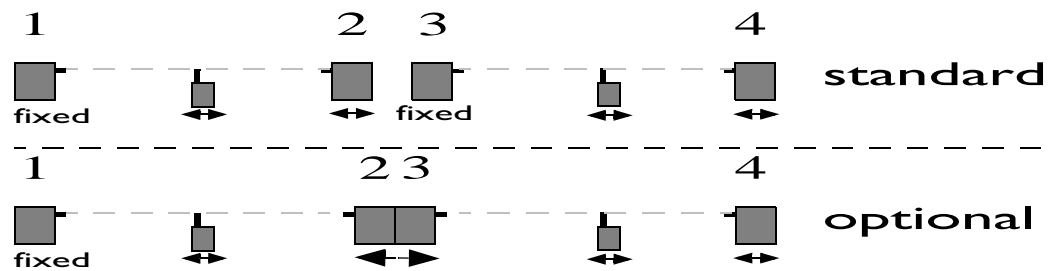
DESCRIPTION	STANDARD	OPTIONAL
Pinchain conveyor pinlength	5 mm / 0.196 inch	3.0 mm / 0.118 inch
Distance between pins	19 mm / 0.75 inch	-
Rail parallelism, total variation at any point on conveyor	1 mm/ 0.04 inch	-
Conveyor rails hardcoat anodised aluminium	✓	-
Minimum board width	50 mm / 1.97 inch	-
Maximum board width	508 mm / 20 inch	610 mm / 24 inch
Top side max. component height	40 mm / 1.57 inch	-
Bottom side clearance	30 mm / 1.18 inch	-
Pinchain conveyor height adjustable	832 - 914 mm / 32.76 - 35.98 inch	-
Conveyor speed range	0.30 - 2.0 m/min	-
Conveyor speed measured value read-out	✓	-
Conveyor speed accuracy	+/- 0.5 %	-
Transport direction left-to-right	✓	right to left
PCB drop detection by tracking on in- and outfeed sensor	-	Optional
Computer controlled chain lubrication	-	Optional
Motorised width adjust via PC	-	Optional
Motorized width adjust	✓	-

I.2.2 MESHBELT



DESCRIPTION	STANDARD	OPTIONAL
Meshbelt (reduces bottom side clearance to 25mm)	-	Optional
Mesh belt: stainless steel flat flex belt	500 mm/19.68 inch	600 mm/23.62 inch
Mesh type	12.7 x 1.8 mm/ 0.50 x 0.07 inch	-

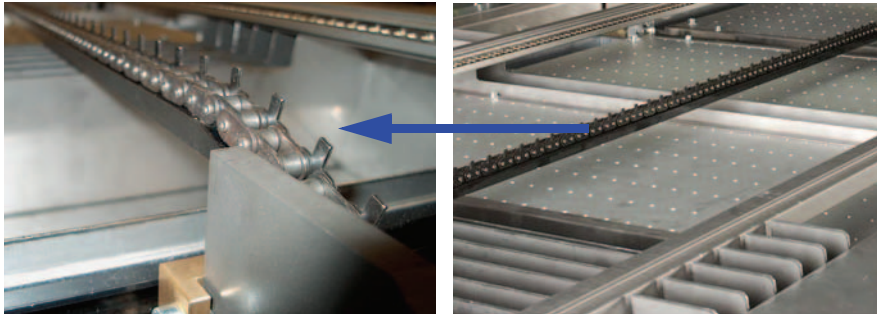
I.2.3 DUAL LANE ①



DESCRIPTION	STANDARD	OPTIONAL
Dual lane	-	Optional
Equal conveyor speed for both lanes	-	Standard
Minimum board width	50 mm / 1.97 inch	-
Maximum board width (equal)	206 mm / 8.11 inch	255 mm / 10.04 inch
Distance between rail 2 and 3	95 mm/ 3.74 inch	-
Rails 1 and 3 fixed position, rail 2 and 4 adjustable	✓	-
Rail 1 fixed, rail 2, 3 and 4 adjustable Note: rail 2 and 3 mounted together	-	Optional, only possible with I board support

① = Consult Vitronics Soltec for details.

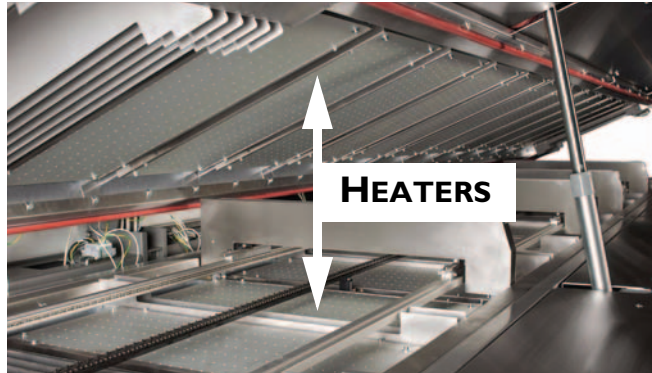
I.3 BOARD SUPPORT SYSTEM



I.3.1 FOR EDGE RAIL ONLY (NO MESHBELT)

DESCRIPTION	DIMENSIONS	STANDARD/ OPTIONAL
Required non-populated track clearance on board bottom side	3 mm / 0.12 inch	
Board support system adjustable in width by motor		Standard
Dual board support, adjustable in width and by motor, incl. park positions for 1 support		Optional
Motorized width adjust via PC		Optional
Park position underneath conveyor chain in case support not required (maximum 1 support)		Standard
Minimum distance to pin chain conveyor, for one and two support systems	50 mm / 1.97 inch	Standard
Minimum distance between two support systems (center-to-center) if not in park position	75 mm / 2.95 inch other dimensions	Standard on request
Pin height support system	8.5mm / 0.33 inch	Standard

I.4 HEATING MODULES



DESCRIPTION	DIMENSIONS	STANDARD/ OPTIONAL
Length of one heating zone	355 mm / 14 inch	
Frequency controlled blower motors	180 W	
Heater type; fast response heaters	Cr-Ni-steel	
Gas temperature control accuracy at steady state	+/- 1° C	
Gas temperature measurement by PT100 sensors in each zone		Standard
Max. heating power per preheat zone (top and bottom)	9 kW	
Cold start warm-up	20 to 30 minutes ❶	
Maximum gas temperature setpoint	350° C	
PID controls with PC-adjustable values for each zone		Standard
Max. allowed temp difference between last soak zone and first peak zone	80° C	Standard
Enhanced zone definition between last soak and first peak	120° C	Optional
Max. allowed temp difference between two adjacent soak zones	50° C	

❶ = Depending on temperature setting and configuration

I.5 COOLING MODULES

DESCRIPTION	DIMENSIONS	STANDARD/ OPTIONAL
Forced Convection; Top		Standard
Forced Convection; Bottom		Optional
Length of one cooling zone	355 mm / 14 inch	
Frequency controlled motors, gas tight, type	180 W	
Gas temperature measurement by PT100 sensors in each zone		Standard
Air Cooling		Standard
Advanced Cooling		Optional
Controlled cooling (only in combination with advanced cooling)❶ Setpoint 1st zone - 70-100°C Setpoint 2nd zone - 50-80°C Setpoint 3th zone - 40-60°C		Optional
Gas temperature control accuracy at steady state	+/- 1° C	
PID controls with PC-adjustable values for each zone		Standard
Factory Water Cooling <ul style="list-style-type: none"> • Maximum water pressure supply • Pressure differential ΔP at 17 ltr/min • Pressure differential ΔP at 33 ltr/min • Minimal water supply (process zones only) Including GRS • Connection 	<ul style="list-style-type: none"> < 800 kPa /8 bar 5.83 kPa/0.0583bar 20.35 kPa/0.2035bar 17 ltr/min at 7°C 33 ltr/min at 7°C 1 " hose pillar 	Optional
Integrated Water Cooling		Optional
External Chiller		Optional

❶ = Max 3 controls (in case of more cooling zones controls will be in serial).

I.6 NITROGEN ATMOSPHERE

DESCRIPTION	DIMENSIONS	STANDARD/ OPTIONAL
Quick purge time to reach specified O ₂ rest value	15 minutes	
Sealed upper and lower tunnel		Standard
Flow meter for accurate nitrogen consumption measurement		Standard
Integrated oxygen analyser with on screen display and alarm set points (auto scanning)		Option
Nitrogen performance (Depending on oven configuration, board dimensions, throughput rate, cell fan speed, nitrogen consumption) MR93N, 20, 40 60 Hz fanspeed, 18 m ³ /h nitrogen consumption,	<100 ppm in reflow	

I.7 INTEGRATED GAS MANAGEMENT SYSTEM

DESCRIPTION	DIMENSIONS	STANDARD/ OPTIONAL
Flux management system, reduces maintenance intervals, incl. Exhaust stack filter		Standard
2nd Generation Condense Filtration System, includes active residue separation unit		Optional

I.8 REQUIREMENTS

I.8.1 POWER SUPPLY REQUIREMENTS

DESCRIPTION	DIM	8-ZONE		10-ZONE	
		MR 620	MR 710	MR 730	MR 820
Power supply	V	400 V, 50/60 Hz, Supply tolerance + 10%, -10%			
Start-up power	kVA	52	52	54	54
Slow start-up power	kVA	44	44	44	44
Power at setpoint (approximately)Ⓢ	kVA	8	8	9	9

DESCRIPTION	DIM	12-ZONE		14-ZONE	
		MR 840	MR 930 MR 1020	MR 1040	MR 1130
Power supply	V	400 V, 50/60 Hz, Supply tolerance + 10%, -10%			
Start-up power	kVA		55	56	56
Slow start-up power	kVA		44	44	44
Power at setpoint (approximately)Ⓢ	kVA		10	11	11

Ⓢ = Depending on configuration, load and setpoint.

I.8.2 NITROGEN SUPPLY REQUIREMENTS

DESCRIPTION	DIM
Nitrogen supply pressure	minimum 4.8 bar / 70 PSI
Nitrogen supply, maximum rate	50 m ³ /hr / 1766 cfm
Nitrogen connection type	½" female NPT

I.8.3 EXHAUST

DESCRIPTION	DIMENSIONS	STATIC PRESSURE
Air Mode-No GRS - Exhaust volume at single connection point (maximum)	450 m ³ /hr / 265 cfm	300 Pa
Air Mode-GRS-Nitrogen - Exhaust volume at single connection point (maximum)	200 m ³ /hr / 118 cfm	100 Pa
Exhaust connection	165mm / 6.50 inch	
Output for externally mounted exhaust ventilator	Option	

I.8.4 CONTROLS

DESCRIPTION	DIMENSIONS	STANDARD/OPTIONAL
PC	Microsoft® Windows® XP based , flat screen monitor, harddisk, network adapter, keyboard and mouse included.	Standard
E-stop circuit	4 Emergency stop buttons at each corner of the machine	Standard
Main circuit breaker disconnect		Standard
Light tower	Blue, red, amber, green and audible alarm	Standard
Working hours counter	Based on conveyor status	Standard
Open in and outputs	Programmable (4)	Standard

I.8.5 OPERATING SOFTWARE

ITEM	STANDARD/OPTIONAL
Operating system Microsoft® Windows® XP Professional	Standard

I.8.6 COMMUNICATION PROTOCOLS

ITEM	STANDARD/OPTIONAL
SMEMA electrical interface, for single and dual lane	Optional
Siemens WMW interface for single and dual lane	Optional
GEM/SECS II & HSMS interface	Optional

I.8.7 GENERAL CONTROLS AND SOFTWARE OPTIONS

ITEM	STANDARD/ OPTIONAL
UPS power backup ❶	Optional
Full function recipe management	Standard
Password protection	Standard
Maintenance Scheduler	Standard
Auto start-stop function through 7 day timer and year calendar	Standard
Selectable main screen lay-out	Standard
Alarm, event and Process Data Logging	Standard
Trend Analysis	Standard
On screen I/O map, with forcible outputs	Standard
Power consumption monitoring	Optional
E-mail communication from machine to user on selectable alarms	Standard
Automatic machine and user software update notification through Internet	Standard
Time and event based reporting via e-mail to selected users	Standard
"How do I..?" integrated help function	Standard
Remote connection through local network	Standard
Digital wiring diagrams, accessible through on-screen I/O maps	Optional
Management Information System	Optional
Ability to link event log, data log and alarm log for better analysis	Optional
SPC, statistical process control	Optional
Remote connection through Internet access with Microsoft Netmeeting	Optional
Four (4) profile K-type thermocouple ports with integrated Vitronics Soltec profiling software	Optional

❶ = UPS

When the mainpower is "disconnected" the UPS will temporary take over all 240V functionality. This means that the product will be unloaded. After the product is unloaded, the machine will be switched off and an alarm is generated.

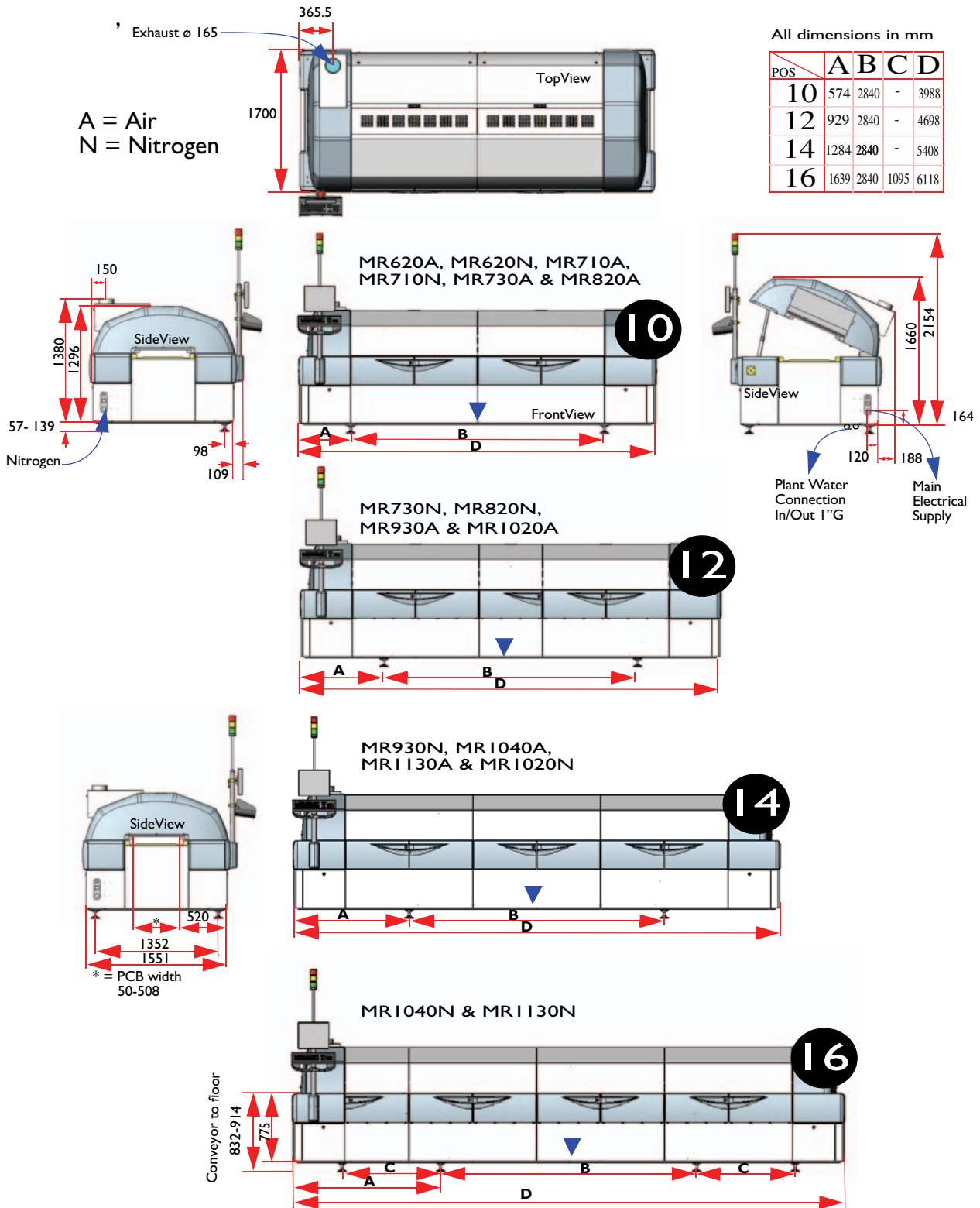
I.8.8 OPERATING CONDITIONS

DESCRIPTION	
Ambient Temperature	18 to 40°C (64 to 104° F)
Relative humidity	30% - 70%
Atmospheric pressure	950 mbar - 1030 mbar

I.8.9 SHIPPING AND INSTALLATION MYREFLOW.COM

See I.1.1 "Available machines"

1.9 DIMENSIONS MYREFLOW



** All specifications are subject to periodic review and may be changed without notice. Vitronics Soltec assumes no obligation for specifications contained herein.

All customer-used chemicals must be compatible with materials used by Vitronics Soltec.